Japanese Beetle Numbers High In Missouri

Late-Planted Corn At Greatest Risk Of Yield Loss

COLUMBIA, MO.

After years of being primarily a horticultural pest, Japanese beetles are emerging as a threat to field crops across Missouri, said Wayne Bailey, University of Missouri Extension entomologist.

The beetles are still not a major crop pest in Missouri, Bailey said, but that may soon change as their range continues to expand.

"Their numbers have really started to increase in the past two to three years," Bailey said. "We've had them in Missouri for a few decades, but mainly as garden pests in St. Louis, Springfield, Kansas City and Columbia. What's changing now is they are moving to field crops, and their distribution is changing as their numbers have increased."

Credit: Lee Jenkins photo

Late-planted corn is most at risk this year. Adult beetles feeding on corn silks can disrupt pollination and cause substantial yield loss, Bailey said.

"We have more corn in the silking stage than usual, which is why we're worried," he said. "Usually, corn has silked and pollinated by this time and defoliation is more of a problem. Corn tassels and silks can be severely damaged by adult beetles feeding."

If beetles clip corn silks so that less than one-half inch remains, the ear may die, Bailey said. "If there's one-half inch of silk left, the corn can still pollinate. But pollination may be reduced."

Japanese beetles can defoliate both corn and soybean plants. They often feed in groups, starting at the top and moving down. Damaged leaves appear lacy or skeletonized. "You can get 30 percent defoliation of soybean without much problem," he said.

Treat soybean when 20-30 percent of plants are defoliated, and corn when silks are clipped to within one-half inch of the husk, he said. "There's enough corn in the silking stage that I'd be looking in fields with green silk to see if there are beetles feeding in your area."

Japanese beetles are identified by their shiny, metallic-green bodies and copper-colored wing covers. They can be confused with adult green June beetles but are smaller – about one-half inch long. Japanese beetles also have five small white tufts on either side of the abdomen and two at the back end, Bailey said. "They look like taillights if you hold the beetles up and look at them."

In Missouri, adults usually start hatching from late May to mid-July, but cool weather has delayed peak emergence by 10 to 14 days, he said.

At present, beetles are scattered in small pockets across most of Missouri. On July 11, about 1,630 adults were caught in traps at the MU Gustin Golf Course in Columbia, said Steven Kirk, an MU Extension integrated pest management specialist who manages the trap counts. In southeast Missouri, MU Extension field staff caught 1,650 in Mississippi County over a four-day period, while nearly 200 were caught in Wilton, southern Boone County, on a single day.

Japanese beetles are also a problem in southwest Missouri and Rolla, Kirk said. "We don't have traps there, so we can't get exact numbers. But they're in and they're a problem."

In rural areas, Bailey said, the beetles will initially appear in low numbers. "It may take two to three years before they start causing real damage. But once they show up in a field, they're usually a pest every year after. They'll feed and then go back underground."

The insects are year-round inhabitants, which aids their spread. While Japanese beetle adults will die in cold weather, the grubs burrow into the soil and emerge the next year when the soil warms up, Bailey said. "The grubs feed on roots. No one has documented whether there is grub damage, but the insects are a grub up to 10 or more months of the year," he said.

Thresholds for economic damage in field crops may be higher than in horticultural plants, Bailey said. "If it's high-value and aesthetic, like roses or apples, three or four may cause damage as soon as they arrive in an area," he said. "Field crops are a little more forgiving. Once you start to get a few hundred, you're probably at economic levels." Δ